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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,724	10/29/2003	Kenichi Ohkawa	Q78154	4042

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EXAMINER

POULOS, SANDRA K

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 12/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,724

Applicant(s)

OHKAWA ET AL.

Examiner

Sandra K. Poulos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/29/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because of legal phraseology such as "discloses" and "comprising." Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The use of the trademark TETRALIN® has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

3. Claims 1 and 5 are objected to because they contain more than one sentence. Claims must begin with a capital letter and end in a period. MPEP 608.01(m).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 6 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 contains the trademark/trade name TETRALIN®. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe 1,2,3,4-tetrahydronaphthalene and, accordingly, the identification/description is indefinite.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkawa et al (US 2002/0004546) in view of Masuda et al (US 2004/0053064).

Ohkawa '546 discloses a thermoplastic resin composition comprising:

- (A) a polypropylene-based resin of 35 to 85% by weight;
- (B) an elastomer of 10 to 35% by weight;
- (C) an inorganic filler of 2 to 30% by weight; and

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(D) a resin of 0.1% by weight or more and less than 5% by weight, wherein (1) the melt tension of the resin(D) measured at a temperature of 190°C and a winding rate of 15.7 m/min. is 0.1 N or more, (2) the swelling ratio of the resin(D) measured at a temperature of 220°C., an L/D ratio of an orifice of 40 and a shear rate of $1.2 \times 10^3 \text{ sec}^{-1}$ is 1.8 or more, and (3) the time required until the ratio ($G(t)/G(0.02)$) of the relaxation elastic modulus $G(t)$ measured at 210°C to there relaxation elastic modulus $G(0.02)$ in a time of 0.02 sec. reaches 0.01, of the resin (D) is 10 sec. or more, and wherein the sum of the (A), (B), (C) and (D) is 100% by weight (paragraphs 10-14).

Further, Ohkawa '546 discloses an injection-molded article obtained by using the above-mentioned thermoplastic resin composition (paragraph 15).

The compounding proportion of the polypropylene-based resin (A) is from 35 to 85% by weight, preferably from 40 to 80% by weight, more preferably from 45 to 75% by weight based on the sum (100% by weight) of the (A), (B), (C) and (D) components (paragraph 27).

The elastomer (B) used in the present invention is not particularly restricted, and preferably is one containing a rubber component. For example, an elastomer composed of vinyl aromatic compound-containing rubber and/or ethylene-.alpha.-olefin random copolymer rubber, and the like are listed (paragraph 29).

The compounding proportion of the elastomer (B) is from 10 to 35% by weight, preferably from 15 to 30% by weight. When the content of the elastomer (B) is less than 10% by weight, impact strength of the thermoplastic composition may decrease, while

when over 35% by weight, the rigidity and heat resistance may decrease (paragraph 39).

The inorganic filler (C) is not particularly restricted so far as the rigidity is improved. For example, calcium carbonate, barium sulfate, mica, crystalline calcium silicate, talc, magnesium sulfate fiber and the like are listed. Preferable are talc and/or magnesium sulfate fiber (paragraph 40). The compounding proportion of the inorganic filler (C) used in the present invention is from 2 to 30% by weight, preferably from 5 to 30% by weight, more preferably from 10 to 30% by weight (paragraph 45).

The resin (D) used in the present invention is a resin which can improve the swelling ratio (SR) of a polypropylene-based resin composition, and has a melt tension (MT) measured at a temperature of 190°C and a winding rate of 15.7 m/min. of 0.1 N or more, preferably 0.15 N or more (paragraph 46).

The resin (D) has a swelling ratio (SR) measured at a temperature of 220 °C, an L/D ratio of an orifice of 40 and a shearing rate of $1.2 \times 10^3 \text{ sec}^{-1}$ of 1.8 or more, preferably 2.0 or more (paragraph 47). The time required until the ratio ($G(t)/G(0.02)$) of the relaxation modulus $G(t)$ of the resin (D) measured at 210.degree. C. to the relaxation modulus $G(0.02)$ in a time of 0.02 sec. thereof measured at 210°C reaches 0.01 is 10 sec. or more, preferably 15 sec. or more (paragraph 48).

Ohkawa '546 does not disclose resin (E) which is a resin characterized by that, with respect to a swelling ratio measured at 220°C at an L/D of an orifice of 40, the ratio of a swelling ratio (SR_{10^3}) at a shear rate of $2.4 \times 10^3 \text{ sec}^{-1}$ to a swelling ratio (SR_{10^2}) at

a shear rate of $1.2 \times 10^2 \text{ sec}^{-1}$, $\text{SR}10^3 / \text{SR}10^2$, is from 1.0 to 1.1 and further does not disclose this resin as being branched.

Masuda '064 discloses a polypropylene film that has high stiffness and lower heat shrinkage than conventional polypropylene films (abstract; paragraph 5). Masuda '064 discloses that the melt strength increases when introducing long chain branched polypropylene (paragraph 23). Preferably, PF-814 is used for this purpose (paragraph 23). The polypropylene is 3-40 wt % of the composition (paragraph 28).

It is noted that in the current disclosure the resin PF-814 is used as resin (E) which meets the limitations set forth in present claim 1, requirement 4, therefore it is examiner's position that the PF-814 disclosed by Masuda '064 also meet these limitations.

It would have been obvious to one of ordinary skill in the art to incorporate the branched polypropylene PF-814 into the composition of Ohkawa '546 and one would have been motivated to do so because Masuda '064 discloses that doing so yields better stiffness and melt strength, and thus obtained the presently cited claims.

7. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Ohkawa '546 in view of Masuda '064 as applied to claims 1-5 and 7-8 above, and further in view of Hirakawa et al (US 6,384,122) and Ohno et al (US 5,667,872).

The discussion with respect to Ohkawa '546 in view of Masuda '064 in paragraph 6 above is incorporated herein by reference.

Ohkawa '546 in view of Masuda '064 does not teach that resin (D) is a propylene-based polymer composition comprising from 40 to 70% by weight of a propylene-based polymer component (I) which has an intrinsic viscosity $[\eta]^A$, measured in tetralin at 135°C, of 5 dl/g or more and a melting peak temperature T_m , measured using a differential scanning calorimeter, of from 130 to 160°C, and from 60 to 30% by weight of a propylene-based polymer component (II) which has an intrinsic viscosity $[\eta]^A$, measured in tetralin at 135°C of from 0.8 dl/g to 1.3 dl/g and a melting peak temperature T_m , measured using a differential scanning calorimeter, of from 130 to 165°C.

Hirakawa '122 discloses a thermoplastic resin composition which is excellent in rigidity and impact resistance in respect of physical properties, has a short molding cycle and characteristic features in surface quality such as no generation of flow mark or weldline, no surface strain or the like in respect of injection moldability, and to an injection molded article excellent in dimension stability molded therefrom by an injection molding method, particularly an automobile interior trim material (col 1, lines 7-15).

The composition comprises (A) crystalline polypropylene; (B) a specific ethylene-butene-1 copolymer rubber, (C) a specific ethylene-propylene copolymer rubber or (D) a specific vinyl aromatic compound-containing rubber; (E) talc; and optionally, fibrous magnesium oxysulfate (abstract).

The intrinsic viscosity of the propylene homopolymer portion is 0.9 to 1.1 dl/g as measured at 135°C in tetralin. When it exceeds 1.1 dl/g, the melt flow rate of the composition becomes low and the fluidity is deteriorated, the molding cycle becomes

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long because the filling time becomes long, and simultaneously a good surface quality is not obtained. When it is less than 0.9 dl/g, the tensile elongation and impact strength are low in respect of physical properties and a good surface quality is obtained in respect of injection moldability but the plasticizing time becomes long and hence the molding cycle becomes long and a preferable result is not obtained (col 3, lines 53-64). The intrinsic viscosity $[\eta]$ of the ethylene-propylene random copolymer portion is preferably 4.5 to 5.5 dl/g, more preferably 4.8 to 5.3 dl/g, and when it is less than 4.5 dl/g a flow mark is generated during the injection molding and when it exceeds 5.5 dl/g, a hard spot portion is caused and a preferable result is not obtained in respect of surface quality (col 3; lines 65-67; col 4, lines 1-25).

Ohno '872 discloses a composition (A) with a polypropylene homopolymer having a melt index (MI) of 0.8 g/10 minutes (the melting peak temperature: 164°C; the melting end temperature: 174°C) and a composition (B) with an ethylene-propylene random copolymer having an MI of 10.0 g/10 minutes (the melting peak temperature: 140°C; the melting end temperature: 151°C) (col 5, example 1). The combination resulted in good smoothness of the final article made from the composition (col 8).

It would have been obvious to one of ordinary skill in the art to use the intrinsic viscosity ranges in Hirakawa '122 in order to avoid the aforementioned undesired properties and to further limit the melting peak temperature to those given by Ohno '872 to increase surface smoothness, thereby obtaining the cited present claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 7:00-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SKP
Sandra K. Poulos
12/14/05

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